

## Setting up Taranis to Fly Spektrum BNF Models

There is a whole range of models, sold under brands such as E-Flite, Parkzone, Hobbyzone and Blade, that are designed to be “plug and play” with the basic Spektrum transmitters, DX4e and DX5e, as well as compatible with more capable Spektrum transmitters like the DX6. So the question addressed here is how to fly these models using a Taranis. The answer is simple in principle: equip the Taranis with a suitable module and program it to act just like a Spektrum transmitter. It’s called emulation and specifically we want to emulate the latest DX5e with its three-position gear switch on channel 5 and momentary lever switch on channel 6.

So this note is intended to tell you what you need to know in order to set up Taranis to do this. Having created such a model definition on your transmitter (or in the Companion program on your computer), all you have to do to setup a new BNF acquisition is to copy and rename the model memory. Keep the original model definition intact (let’s call it “DX5 Emulate”), so you can use it again for another aircraft (or go back to it if you make modifications that don’t work out).

### Emulating a DX5e

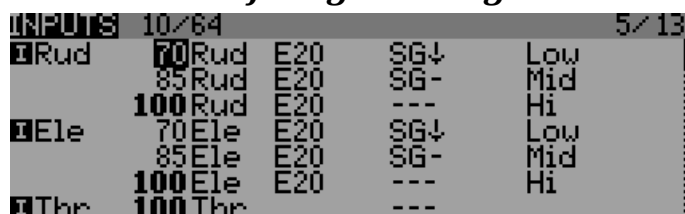
Here’s what needs to be changed to make your Taranis look like a Spektrum transmitter:

- **Channel order TAER.** This affects all future default models. It does not change ones already created. (Radio Setup menu)
- **Throttle Trim disabled.** You don’t need throttle trim for electric models. (Model Setup)
- **Trim Increment.** Medium is a good compromise setting. (Model Setup)
- **Dual Rate** on channels 2, 3, and 4. (Inputs page).
- **Default mixes for channels 1-4.** Leave at 100%. Check TAER channel order. (Mixer page)
- **Three position switch on channel 5.** Mode control for SAFE technology. (Mixer page)
- **Momentary switch on channel 6:** Acts as “panic button” for SAFE models. (Mixer page)
- **Set limits to 80%, all channels:** Requires as Taranis 100% is Spektrum 125%. (Servos page)
- **Set the lower limit for throttle to -100%.** Equivalent to full down trim. (Servos page)
- **Reverse channels 2 and 4.** To match the Spektrum for aileron and rudder (Servos page)

In addition to these basic changes, you may want to add the following:

- Set Timer to 5:00 countdown (good starting point), throttle (THs) trigger. (Model Setup)
- MinuteBeep, CountDown (Voice). Taranis will speak the time. (Model Setup)
- ThrottleLock. Override CH1 to -100. Disables throttle stick. (Special Functions)
- Spoken announcements of mode, rate, etc.. Beyond scope of this note but not hard to do.

### Screen Shots of Programming



INPUTS	10/64			5/13
1Rud	70Rud	E20	SG↓	Low
	85Rud	E20	SG-	Mid
	100Rud	E20	---	Hi
2Ele	70Ele	E20	SG↓	Low
	85Ele	E20	SG-	Mid
	100Ele	E20	---	Hi
3Thr	100Thr	---	---	---

(Mix lines for Aileron are similar.)

MIXER		6/64	6/13
CH1	100	Thr	Thr
CH2	100	Ail	Ail
CH3	100	Ele	Ele
CH4	100	Rud	Rud
CH5	100	SB	Mode
CH6	100	SH	Panic
CH7			

SERVOS		988us	7/13
CH1	0.0	-100.0← 80.0 →	--- 1500Δ
CH2	0.0	-80.0- 80.0 ←	--- 1500Δ
CH3	0.0	-80.0- 80.0 →	--- 1500Δ
CH4	0.0	-80.0- 80.0 ←	--- 1500Δ
CH5	0.0	-80.0← 80.0 →	--- 1500Δ
CH6	0.0	-80.0← 80.0 →	--- 1500Δ
CH7	0.0	-100.0- 100.0 →	--- 1500Δ

SPECIAL FUNCTIONS		11/13
SF1	SF↓ OverrideCH1 -100	<input checked="" type="checkbox"/>
SF2	---	
SF3	---	
SF4	---	
SF5	---	
SF6	---	
SF7	---	

## Module

To add DSM capability, you need a module that will fit the external JR-type bay on Taranis. The major choices are the following:

- **Spektrum DM9 module.** These look a bit pricey at about \$110 but they include a Spektrum receiver that can be sold for \$60 or more. They have the advantage of being a genuine Spektrum product. While limited to DSM2, they are fully compatible with DSMX receivers.
- **OrangeRX Module.** Probably the most popular approach, this costs about \$30. It works well on both DSM2 and DSMX. It supports all four DSM2/DSMX receiver types but must be shifted manually from one mode to another if you use receivers of different types. The antenna is rather vulnerable as it sticks out the back of the module.
- **“Hack” module.** You can salvage the RF module from within a DX4e, DX5e or DX6i and adapt it for use with Taranis. Advantages include ModelMatch to ensure that you select the right model memory. This option does require soldering. For details go to:  
<http://www.hacksmods.com/2012/07/hp6dsm-module-wired-up/>

To use any of these modules with Taranis, you go to the Model Setup page, set the internal module to OFF and adjust a few key parameters for the external module:

- The Spektrum DM9 requires PPM mode. On the PPM frame line choose 22ms, 400usec, +.
- The OrangeRX module requires PPM mode and the default settings.
- A hack module requires DSM2 mode, plus DSMX or DSM2 as second item on the line.

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